1/5

SEQUENCE LISTING

<110> National Research Council of Canada

<120> Transgenic manipulation of sn-glycerol-3-phosphate and glycerol production with a feedback defective glycerol-3-phosphate dehydrogenase gene

<130> 45419

<140>

<141>

<150> US60/155133

<151> 1999-09-22

<160> 6

<170> PatentIn Ver. 2.1

<210> 1

<211> 1020

<212> DNA

<213> Escherichia coli

<400> 1





2/5

cgccgttttg gcatgatgt cggtcagggc atggatgtac aaagcgcgca ggagaagatt 840 ggtcaggtgg tggaaggcta ccgcaatacg aaagaagtcc gcgaactggc gcatcgcttc 900 ggcgttgaaa tgccaataac cgaggaaatt tatcaagtat tatattgcgg aaaaaacgcg 960 cgcgaggcag cattgacttt actaggtcgt gcacgcaagg acgagcgcag cagccactaa 1020

<210> 2

<211> 339

<212> PRT

<213> Escherichia coli

<400> 2

Met Asn Gln Arg Asn Ala Ser Met Thr Val Ile Gly Ala Gly Ser Tyr

1 5 10 15

Gly Thr Ala Leu Ala Ile Thr Leu Ala Arg Asn Gly His Glu Val Val
20 25 30

Leu Trp Gly His Asp Pro Glu His Ile Ala Thr Leu Glu Arg Asp Arg
35 40 45

Cys Asn Ala Ala Phe Leu Pro Asp Val Pro Phe Pro Asp Thr Leu His

Leu Glu Ser Asp Leu Ala Thr Ala Leu Ala Ala Ser Arg Asn Ile Leu 65 70 75 80

Val Val Val Pro Ser His Val Phe Gly Glu Val Leu Arg Gln Ile Lys 85 90 95

Pro Leu Met Arg Pro Asp Ala Arg Leu Val Trp Ala Thr Lys Gly Leu 100 105 110

Glu Ala Glu Thr Gly Arg Leu Leu Gln Asp Val Ala Arg Glu Ala Leu 115 120 125

Gly Asp Gln Ile Pro Leu Ala Val Ile Ser Gly Pro Thr Phe Ala Lys
130 135 140

| Glu 145 | Leu | Ala | Ala | Gly | Leu 150 | Pro | Thr | Ala | Ile | Ser 155 | Leu | Ala | Ser | Thr | Asp 160 |
|------------|------------|------------|------------|------|------------|------------|------------|------------|-----|------------|------------|------------|------------|-----|------------|
| Gln | Thr | Phe | Ala | Asp | Asp | Leu | Gln | Gln | Leu | Leu | His | Cys | Gly | Lys | Ser |
| | • | | | 165 | • | D | . | Dh | 170 | 61 | **** | 0 1 | 7 | 175 | 61 |
| rne | AIG | AST | 180 | ser | ABII | PIO | жър | 185 | 116 | GIY | Val | GIII | 190 | GIY | GIY |
| Ala | Val | Lys 195 | Asn | Val | Ile | Ala | 11e 200 | Gly | Ala | Gly | Met | Ser 205 | Asp | Gly | Ile |
| Gly | Phe 210 | Gly | Ala | Asn | Ala | Arg 215 | Thr | Ala | Leu | Ile | Thr 220 | Arg | Gly | Leu | Ala |
| Glu | Met | Ser | Arg | Leu | | Ala | Ala | Leu | Gly | | Asp | Pro | Ala | Thr | |
| 225 Met | Glv | Met | Ala | G] v | 230 Leu | Glv | Asp | Leu | Val | 235 Leu | Thr | Cvs | Thr | Glu | 240 Asp |
| | , | | | 245 | | 3 | | | 250 | | | • | | 255 | |
| Gln | Ser | Arg | Asn 260 | Arg | Arg | Phe | Gly | Met 265 | Met | Leu | Gly | Gln | Gly 270 | Met | Asp |
| Val | Gln | Ser 275 | Ala | Gln | Glu | Lys | Ile 280 | Gly | Gln | Val | Val | Glu 285 | Gly | Tyr | Arġ |
| Asn | Thr 290 | Lys | Glu | Val | Arg | Glu 295 | Leu | Ala | His | Arg | Phe | Gly | Val | Glu | Met |
| | Ile | Thr | Glu | Glu | Ile 310 | Tyr | Gln | Val | Leu | Tyr 315 | Сув | Gly | Lys | Asn | Ala 320 |
| 305 Arg | Glu | Ala | Ala | Leu | | Leu | Leu | Gly | Arg | | Arg | Lys | Asp | Glu | |
| | | | | 325 | | | | | 330 | | | | | 335 | |
| | | | | | | | | | | | | | | | |

Ser Ser His

26

4/5

<210> 3 <211> 18 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: PCR primer **GPSA3** <400> 3 ttagtggctg ctgcgctc 18 <210> 4 <211> 18 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: PCR primer **GPSA5** <400> 4 aacaatgaac caacgtaa 18 <210> 5 <211> 26 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: PCR primer GPSA31 <400> 5 gagagetett agtggetget gegete

PCT/CA00/01096

5/5

<210> 6

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR primer GPSA51

<400> 6

gaagaaggat ccaacaatga accaacgtaa

30